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(71) Applicant(s)

Field Group Plc
(Incorporated in the United Kingdom)
Misbourne House, Badminton Court, Rectory Way,
OLD AMERSHAM, Bucks, HP7 0DD, United Kingdom

(72) Inventor(s)

Edwin Ruddock
Kevin Topfer

(74) Agent and/or Address for Service

Frank B Dehn & Co.
179 Queen Victoria Street, LONDON, EC4V 4EL,
United Kingdom

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(56) Documents Cited

GB 1143230 A

US 4314643 A

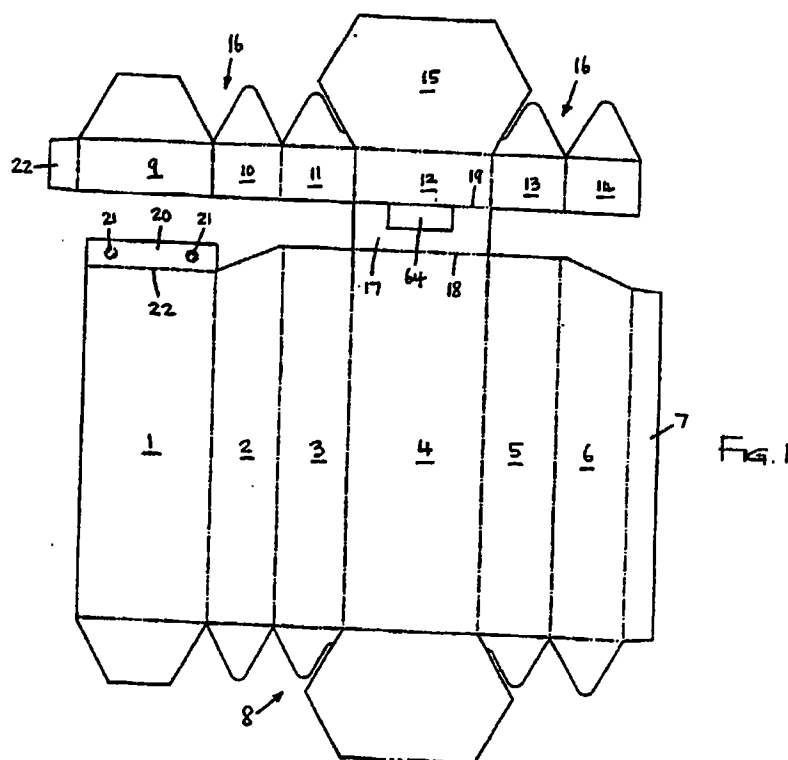
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INT CL⁷ B65D 5/54 5/66 5/68
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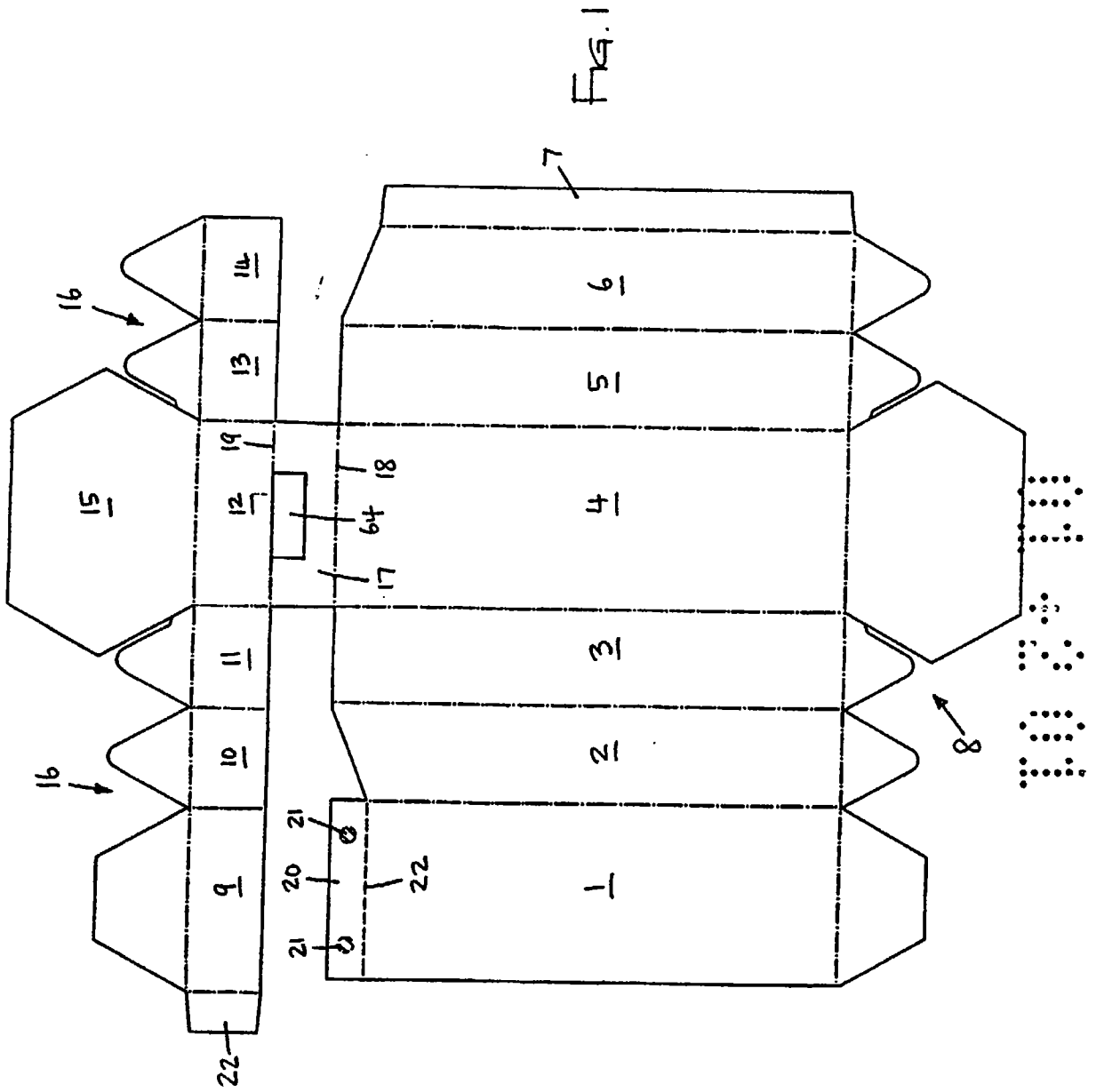
(54) Abstract Title

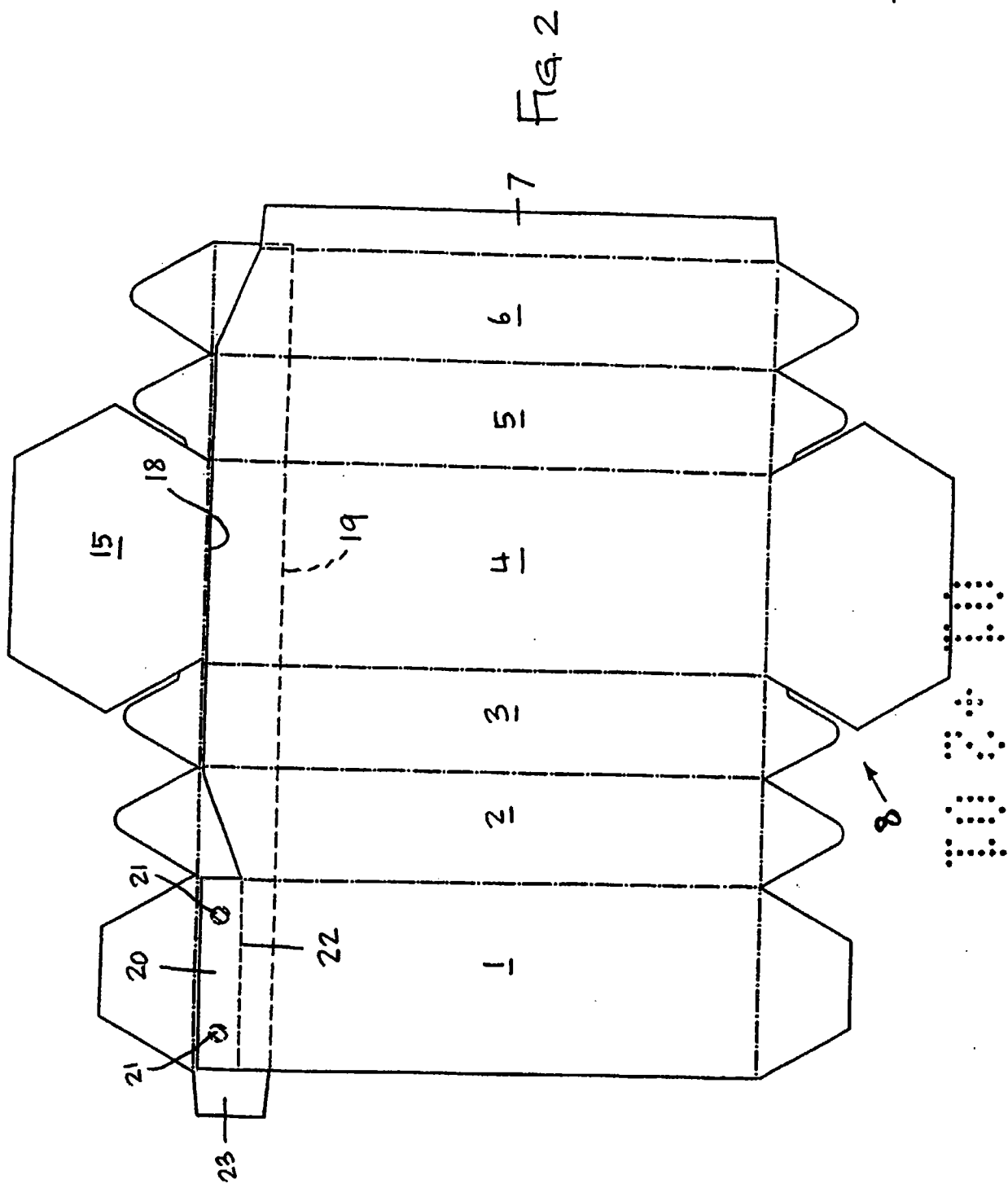
Cartons

(57) A carton having a cap-like hinged lid is formed by connecting a row of panels 9 to 14 to form the lid and a row of panels 1 to 6 to form side walls of a tubular body. A lid connecting panel 17 connected to one of the body panels 4 is reverse folded at a fold 18 to enable the row of lid panels to be folded down to overlap the tops of the body panels before the tubular body is formed. An extension 20 of a body panel 1 may be spot glued at 21 to a lid panel 9 so that on opening the lid the extension 20 is detached at a row of cuts 22 as an indication of tampering.



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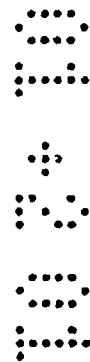
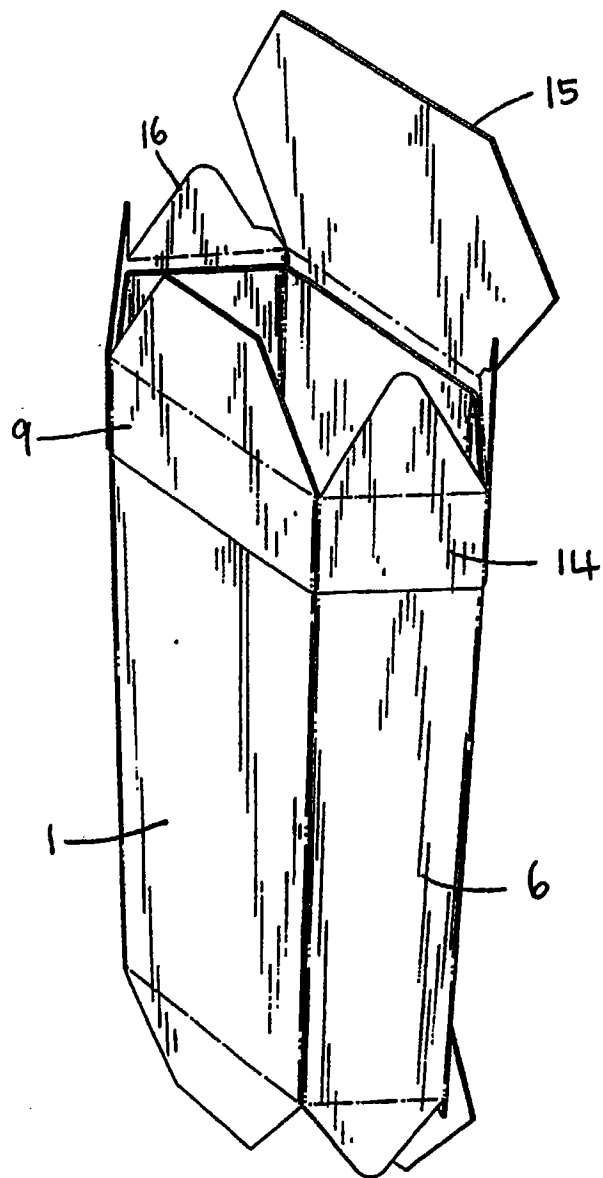


FIG. 4

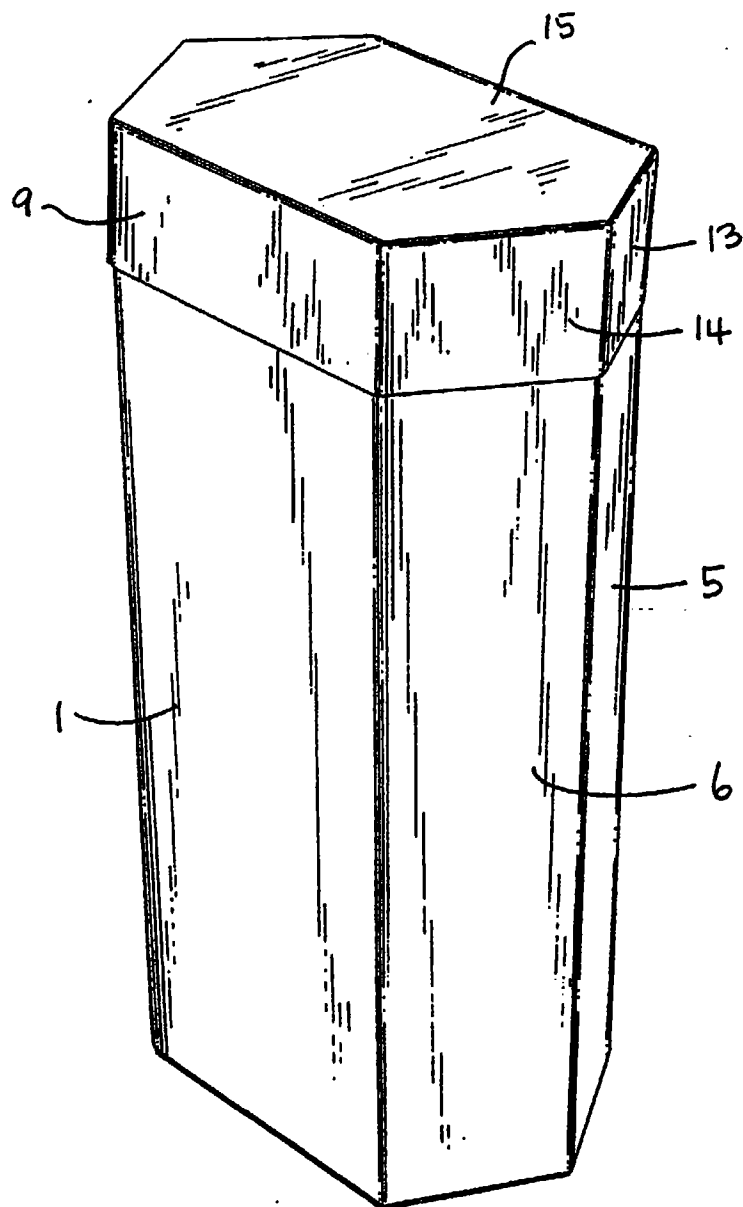


Fig 5

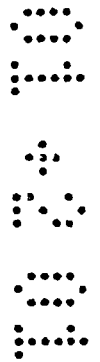
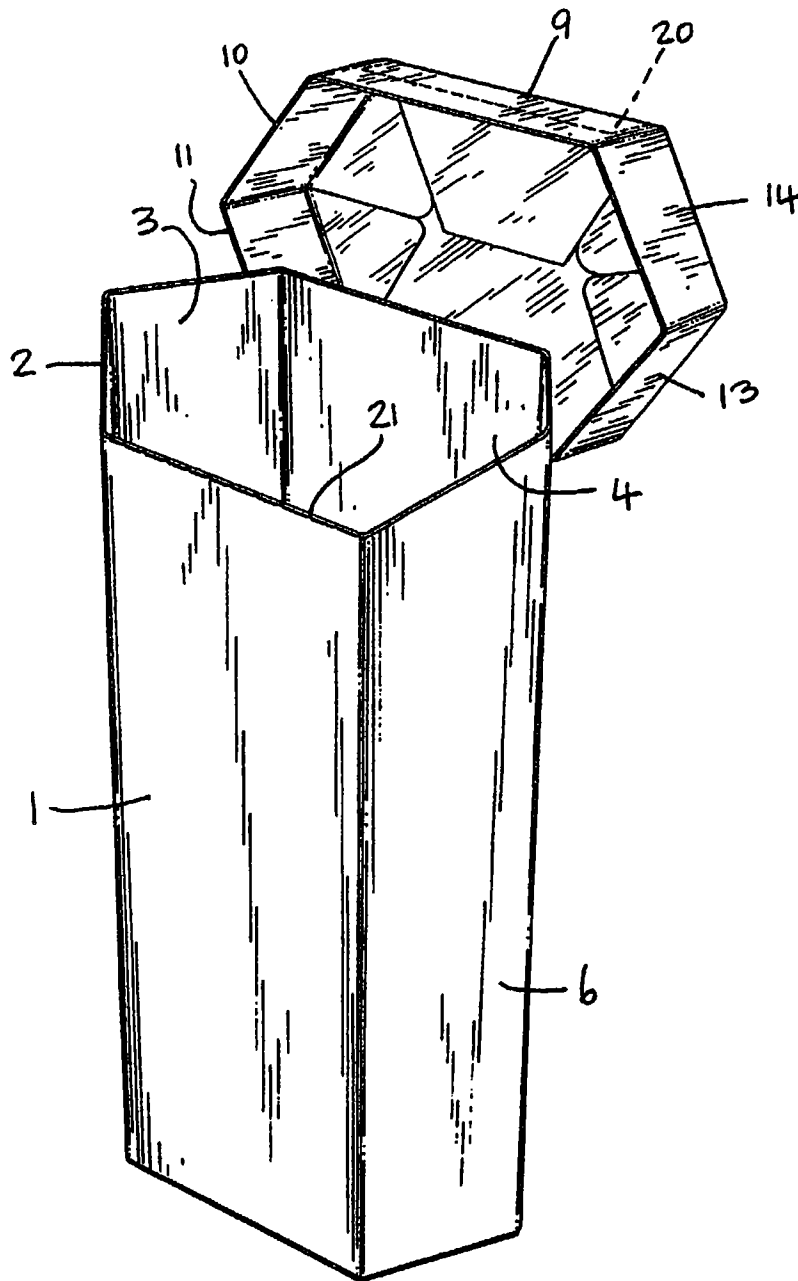
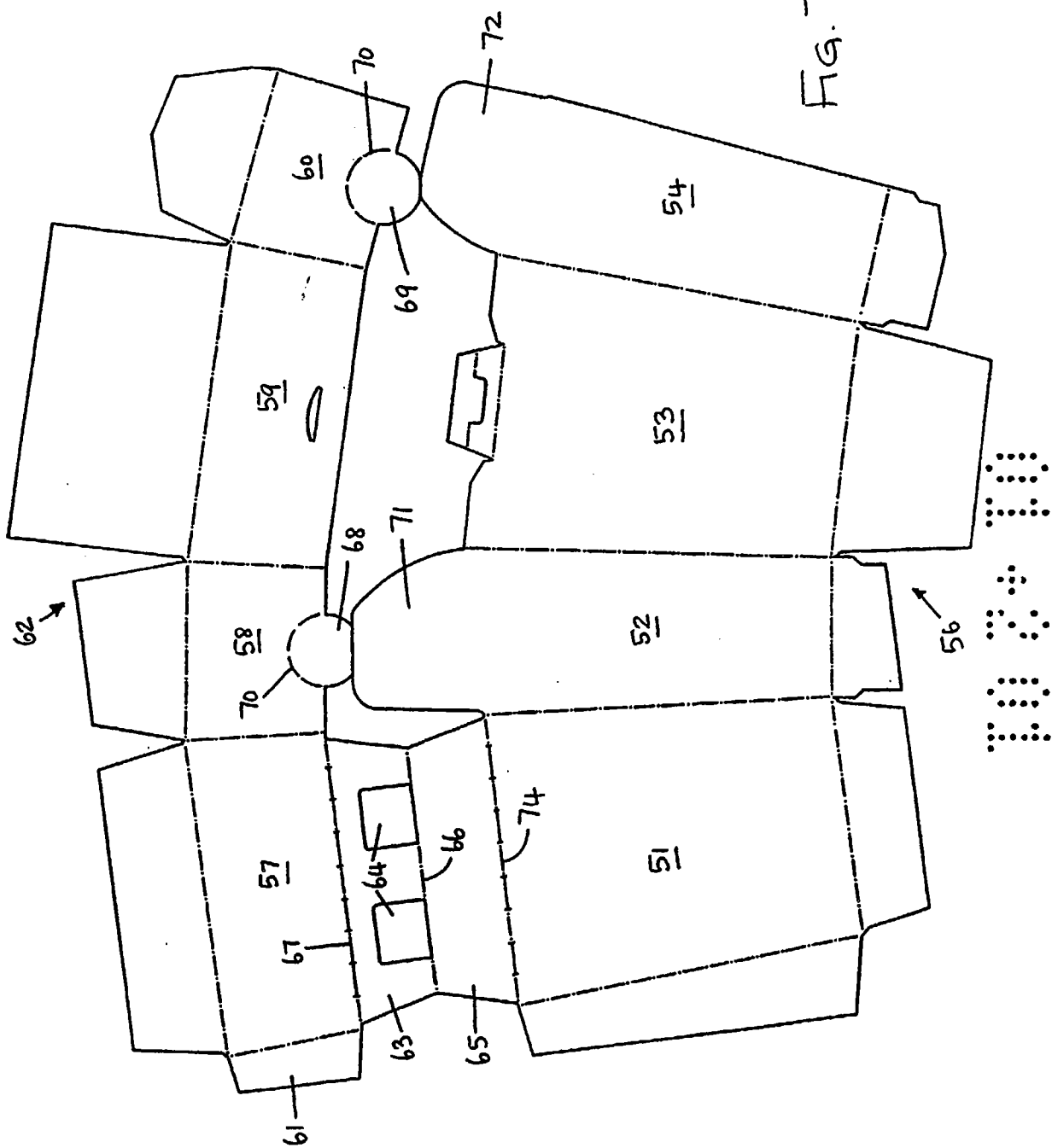


FIG 6



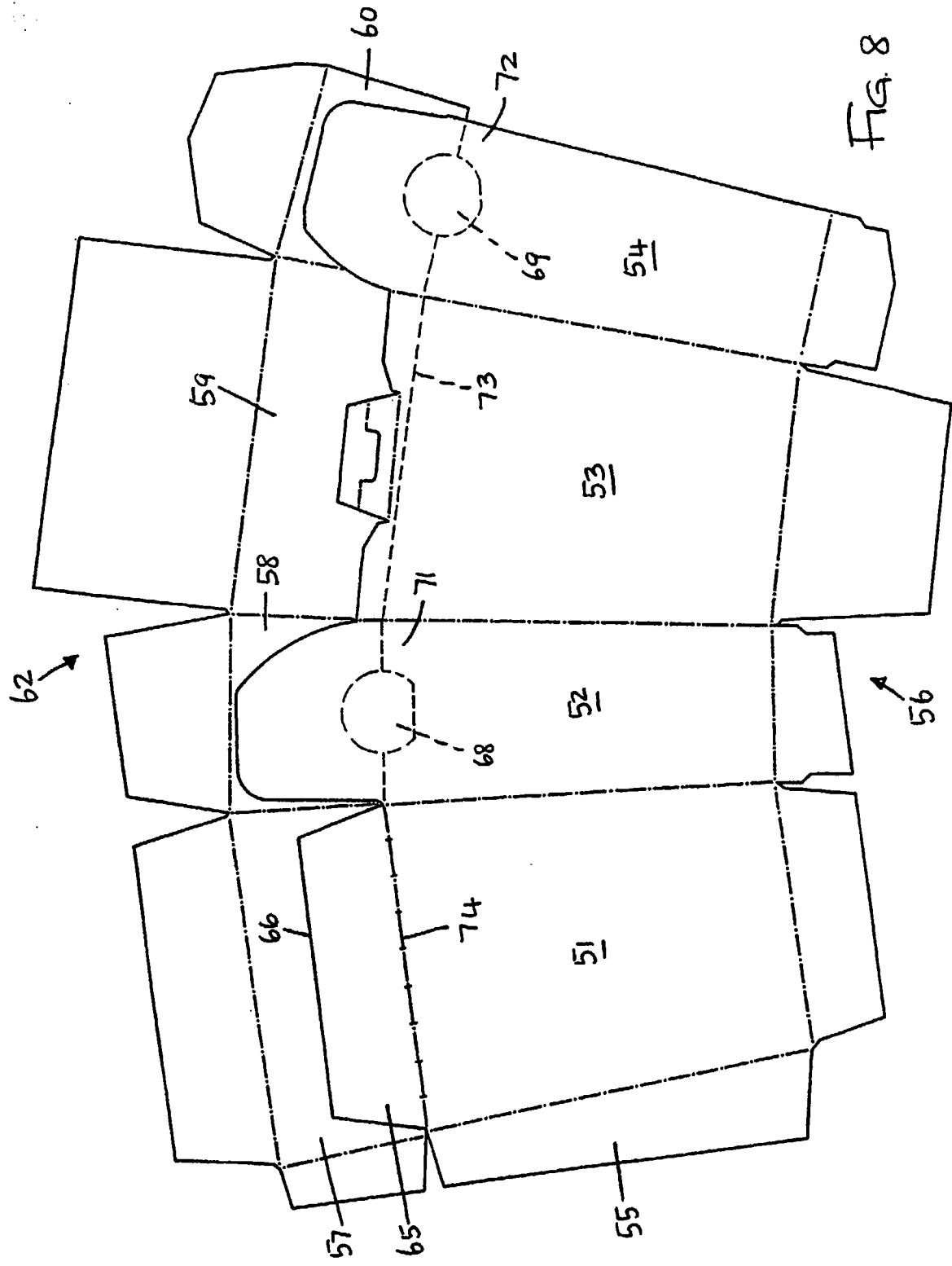


FIG. 8

10 20 30 40 50 60 70 80 90 100

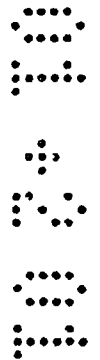
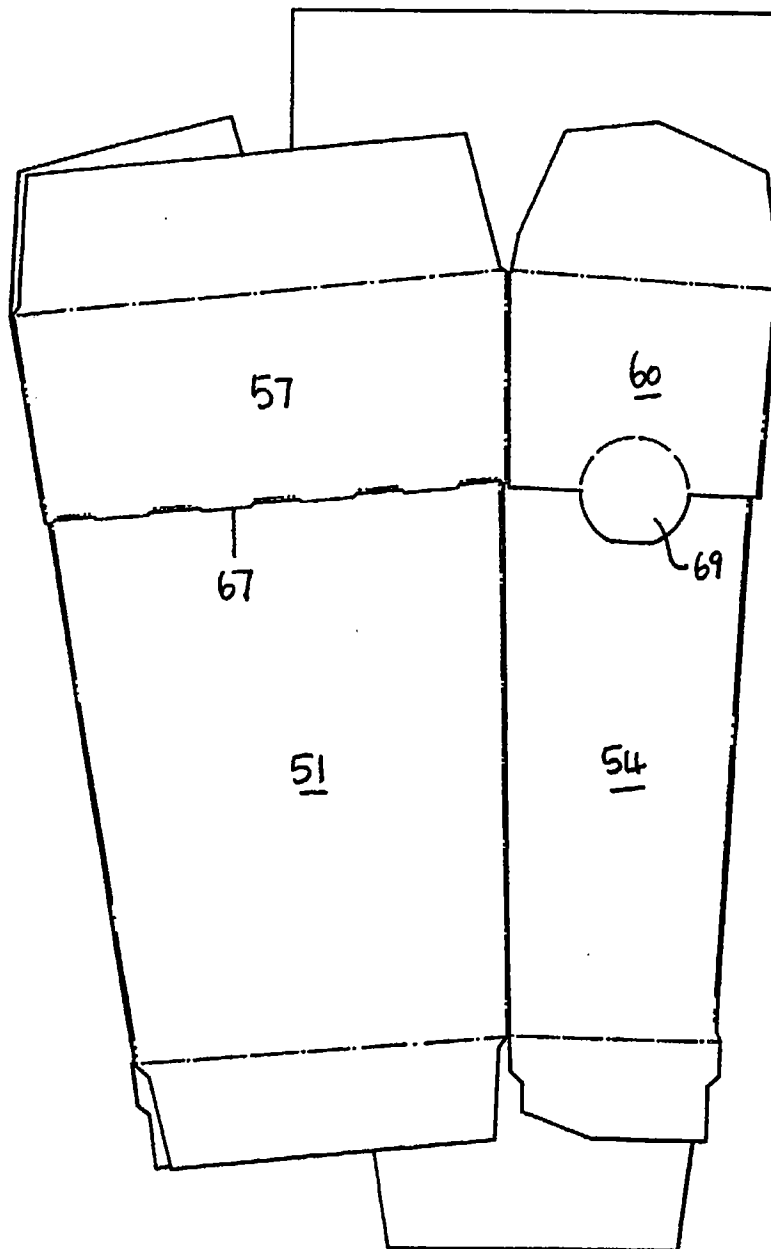


Fig. 9

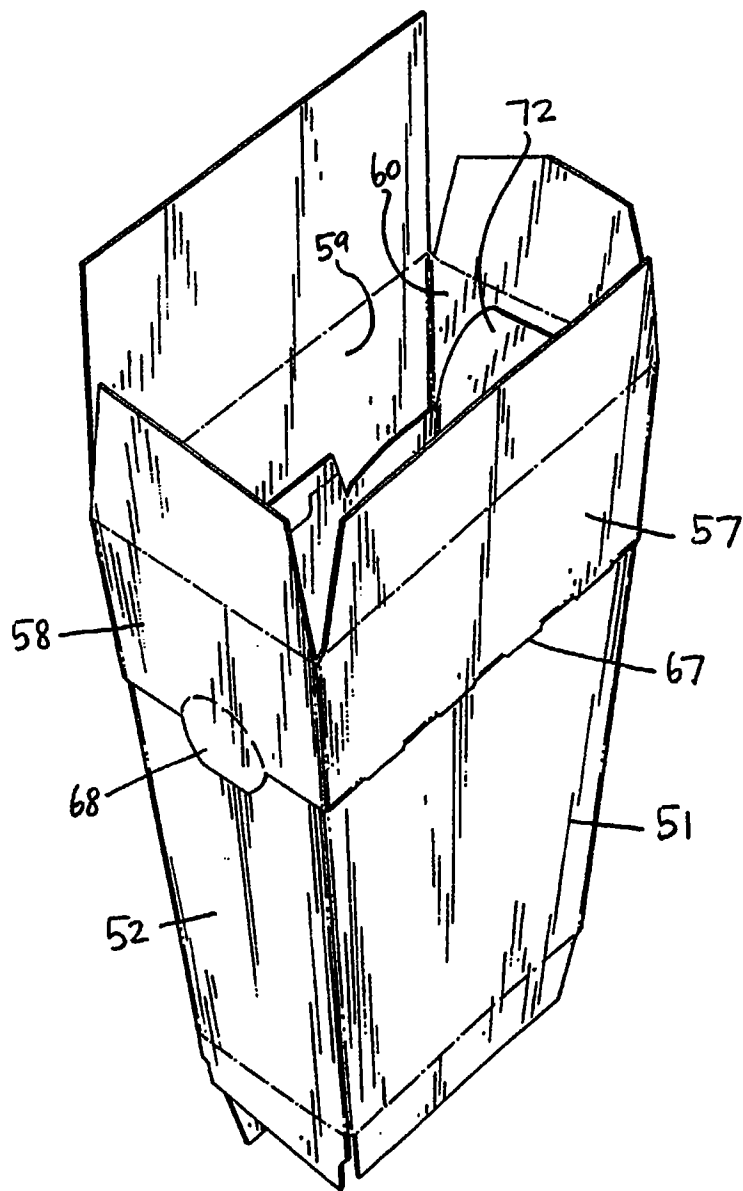


Fig. 10

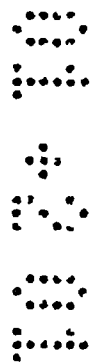
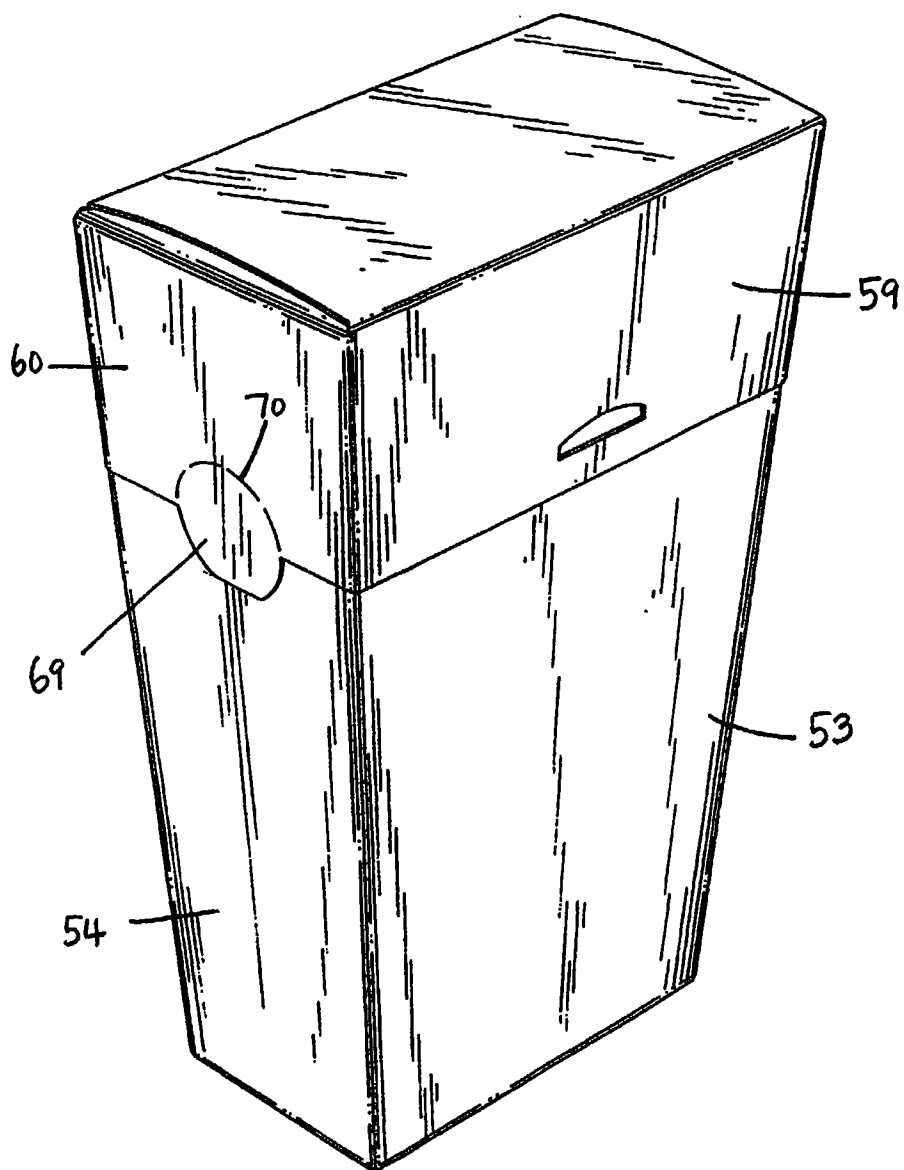


FIG. 11

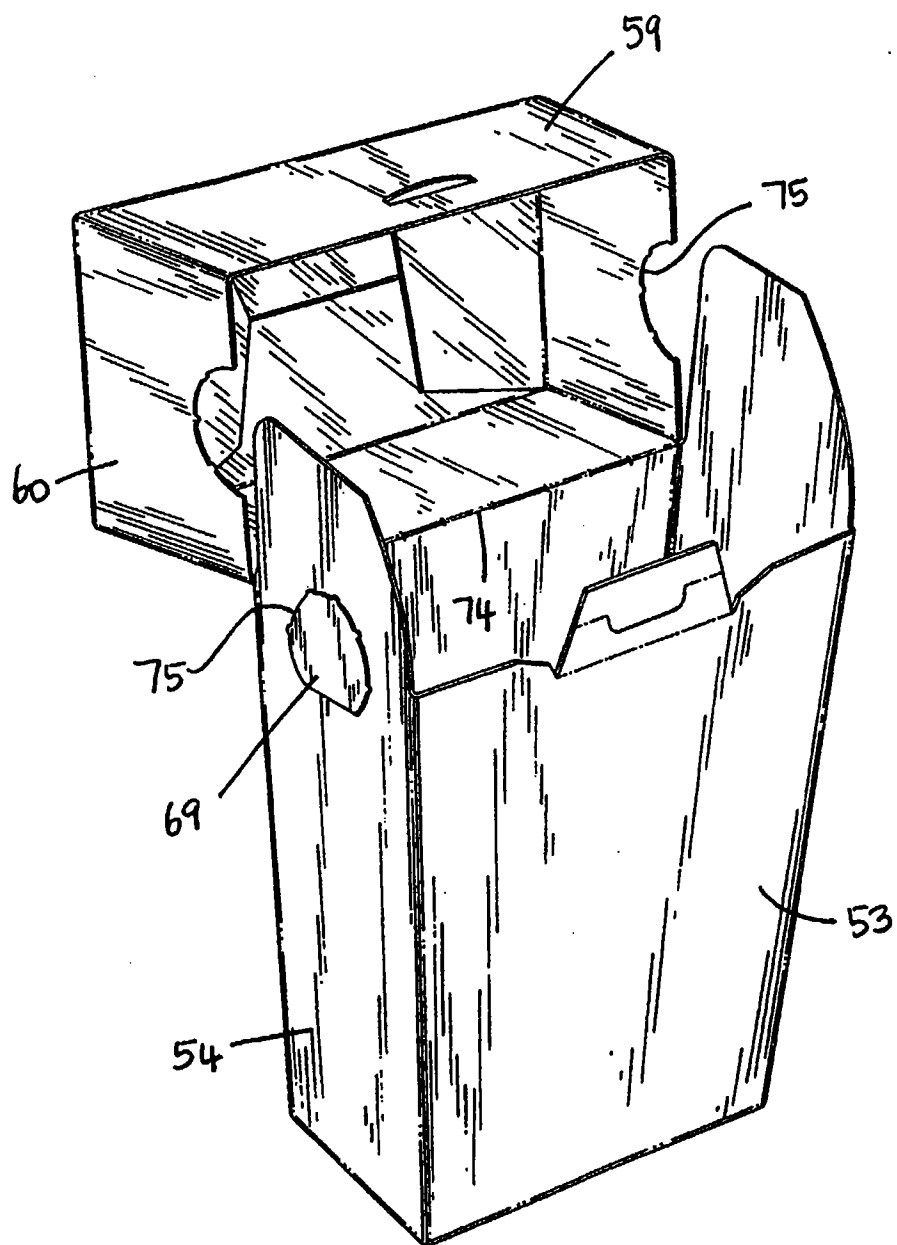


FIG. 12

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"Cartons"

5 This invention relates to cartons made of
cardboard, paperboard or similar lightweight foldable
sheet material and has as its object to provide an
improved carton of the kind having an upright tubular
body and a hinged lid of cap-like configuration.

10 According to the invention there is provided a
carton having an upright tubular body and a hinged lid,
the lid having side walls which extend down over the
side walls of the body in the manner of a cap, the lid
being connected to the body by a lid connecting panel
which is hingedly connected along one of its sides to
15 the top of one of the body side walls by a reverse fold
and secured face to face to the outside of said side
wall, and along an opposite side to the bottom of a side
wall of the lid.

20 In one form of the invention the said lid
connecting panel is also secured face to face to the
inside of the said side wall of the lid, and the top
part of the said side wall of the body is hingedly
connected to the lower part thereof for opening and
closing movement of the lid.

25 In another form of the invention the said lid
connecting panel is connected to the lid only at its
hinged connection thereto, opening and closing of the
lid being about such hinged connection.

30 Preferably the carton has a tamper evident feature
which makes it clear to a user that the lid has
previously been opened. This may be achieved by
arranging that, prior to initial opening, the lid is
held in its closed position by a connection to the body,
separate from its hinged connection, which is releasable
35 by tearing.

In one form of the invention the said releasable
connection is between a side wall of the lid and a

corresponding side wall of the body, by way of an upward extension of the body side wall secured face to face to the inside of the lid side wall, said extension being detachable from the body side wall by tearing.

- 5 Preferably the said releasably interconnected side walls are located opposite from the hinged connection between the lid and the body.

In another form of the invention the said releasable connection is between two opposite side walls of the lid and two corresponding side walls of the body, by way of a downward extension of each said lid side wall secured face to face to the outside of the corresponding body side wall, each said extension being detachable from the lid side wall by tearing.

- 10
15 Preferably the said releasably interconnected pairs of opposite side walls are located one to each side of the hinged connection between the lid and the body.

Preferably the or each said tearable connection comprises elongate cuts separated by small lands, detachable by a laterally applied pull, so as to be readily tearable upon opening movement of the lid.

Two embodiments of the invention will now be described by way of example and with reference to the accompanying drawings, in which:-

- 25 Figure 1 is a plan view of a blank for making a six-sided carton, seen from the inside;

Figure 2 is a similar but developed view of the blank following initial folding and gluing;

- 30 Figure 3 is a view in front elevation of the partially erected carton in flattened tubular form;

Figure 4 is a front perspective view of the partially erected carton with its tubular body opened;

Figure 5 is a front perspective view of the fully erected carton prior to opening;

- 35 Figure 6 is a similar view of the carton with its lid open;

Figure 7 is a plan view of a blank for making a

four-sided carton, seen from the inside;

Figure 8 is a similar but developed view of the blank of Figure 7 following initial folding and gluing;

Figure 9 is a view in rear elevation of the
5 partially erected carton in flattened tubular form;

Figure 10 is a rear perspective view of the partially erected carton with its tubular body opened;

Figure 11 is a front perspective view of the fully erected carton prior to opening; and

10 Figure 12 is a similar view of the carton with its lid open. /

Referring to Figure 1, a cardboard blank for making a six-sided carton according to the invention comprises a row of panels 1 to 6 for forming a tubular body,
15 terminating in a side seam gluing strip 7. An array of flaps 8 for forming a conventional base is provided at the bottom end of the blank.

A row of six panels 9 to 14 for forming the side walls of a lid, together carrying a panel 15 and flaps
20 16 for forming the top of the lid, are connected to the body side wall panel 4 by way of a lid connecting panel 17, there being a reverse fold line 18 between the panels 4 and 17 and a normal fold line 19 between panels 12 and 17.

25 The first step in the erection of the carton is illustrated in Figure 2, which is a developed view in that the blank would not in fact lie flat in its glued condition as illustrated. The row of lid side wall forming panels 9 to 14 have been lowered behind the tops
30 of the body side wall forming panels 1 to 6, by folding about fold lines 18 and 19. At this time, lid connecting panel 17 is glued to the outside of the body side wall panel 4 and an upward extension 20 of body side wall panel 1 is spot glued at 21 to the inside of
35 the lid side wall panel 9. The upward extension 20 is connected to the panel 1 by a row of cuts separated by small lands, indicated at 22, so as to be readily

detachable from the panel 1 by a lateral (in this case upward) pull, as referred to again later.

5 The tubular body of the carton is now formed by gluing strip 7 to panel 1 and a gluing tab 23 to panel 14, to arrive at the flattened tubular formation shown in Figure 3. Indicated in this Figure are the upward extension 20 of body panel 1, glued to the inside of lid panel 9, and its detachable connection line 22.

10 Figure 4 shows the tubular body opened out into its intended shape, and Figure 5 shows the fully erected carton with its base and lid formed up by gluing together the flaps 8 and 15/16 respectively. It will be noted from Figure 5 that the carton lid is of cap-like configuration, with its side walls visibly extending
15 down over the tops of the side walls of the carton body.

 It will be understood that, in the fully erected but not yet opened condition of the carton as shown in Figure 5, the lid is secured in its closed condition by virtue of the fact that its front side wall panel 9 is
20 glued internally to the detachable upward extension 20 of the front body panel 1. To open the lid, a user locates a finger under the bottom edge of the panel 9 and levers upwardly, whereupon the connection 22 between the extension 20 and the panel 1 is broken and the lid
25 may be opened by hinging about fold line 19 between lid rear side wall panel 12 and the lid connecting panel 7. The fact that the carton has been opened is then clear to a user by the presence of the broken edge 22, as indicated in Figure 6.

30 The four-sided embodiment of a carton according to the invention illustrated in Figures 7 to 12 has many features in common with the six-sided carton of Figures 1 to 6, as will be clear to a skilled reader. Consequently only those features which differ
35 substantially from the previous embodiment need be described in detail.

 Referring first to Figure 7, the cardboard blank

comprises a row of four body side wall panels 51 to 54, a side seam gluing strip 55, base flaps 56, a row of four lid side wall panels 57 to 60 with a gluing tab 61 at one end, and flaps 62 for forming the top of the lid.

5 A lid connecting panel 63, formed with square holes 64 for use in machine erection, is connected to a top part 65 of the body panel 51 along a reverse fold line 66 and to the lid side wall panel 57 along a normal fold line 67. Lid securing discs 68 and 69, for releasably
10 holding the lid in its closed condition as described below, depend from the lid side wall panels 58 and 60 respectively and are detachably secured to those panels by lines of cuts and lands 70.

15 Similarly to the previous embodiment, the first step in erecting the carton is to lower the row of lid side wall panels 57 to 60 down behind the tops of the body panels, by folding about fold lines 66 and 67, to arrive at the condition shown in Figure 8. At this time the panels 63 and 65 are glued together face to face and
20 the panel 63 is also glued faced to face to the panel 57. Furthermore the lid securing discs 68 and 69 are glued to the outside faces of the top parts 71 and 72 of the body panels 52 and 54 respectively. The dashed line 73 in Figure 8 indicates the bottom edges of the lid
25 side wall panels, behind the top regions of the body panels.

 The tubular body of the carton is now formed, as shown in flat condition in Figure 9, this time as seen from the rear. Following that, the body is erected as
30 shown in Figure 10, again as seen from the rear.

 Reverting to front views in Figures 11 and 12, the carton is opened by a user locating a finger under the bottom edge of the lid front wall 59 and levering
35 upwards to break the connections 70, whereupon the lid may be opened by hinging about fold line 74 between the upper and lower parts of the body wall 51. The fact that the carton has been opened is then clear to a user

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by the presence of the broken edges 75, as indicated in Figure 12.

Claims:

1. A carton having an upright tubular body and a hinged lid, the lid having side walls which extend down over the side walls of the body in the manner of a cap, the lid being connected to the body by a lid connecting panel which is hingedly connected along one of its sides to the top of one of the body side walls by a reverse fold and secured face to face to the outside of said side wall, and along an opposite side to the bottom of a side wall of the lid.
2. A carton as claimed in claim 1, wherein the said lid connecting panel is also secured face to face to the inside of the said side wall of the lid, and the top part of the said side wall of the body is hingedly connected to the lower part thereof for opening and closing movement of the lid.
3. A carton as claimed in claim 1, wherein the said lid connecting panel is connected to the lid only at its hinged connection thereto, opening and closing of the lid being about such hinged connection.
4. A carton as claimed in any of the preceding claims, wherein, prior to initial opening, the lid is held in its closed position by a connection to the body, separate from its hinged connection, which is releasable by tearing.
5. A carton as claimed in claim 4, wherein the said releasable connection is between a side wall of the lid and a corresponding side wall of the body, by way of an upward extension of the body side wall secured face to face to the inside of the lid side wall, said extension being detachable from the body side wall by tearing.

6. A carton as claimed in claim 5, wherein the said releasably interconnected side walls are located opposite from the hinged connection between the lid and the body.

5

7. A carton as claimed in claim 4, wherein the said releasable connection is between two opposite side walls of the lid and two corresponding side walls of the body, by way of a downward extension of each said lid side wall secured face to face to the outside of the corresponding body side wall, each said extension being detachable from the lid side wall by tearing.

10

8. A carton as claimed in claim 7, wherein the said releasably interconnected pairs of opposite side walls are located one to each side of the hinged connection between the lid and the body.

15

9. A carton as claimed in any of claims 5 to 8, wherein the or each said tearable connection comprises elongate cuts separated by small lands, detachable by a laterally applied pull, so as to be readily tearable upon opening movement of the lid.

20

10. A carton as claimed in claim 1, substantially as hereinbefore described with reference to the accompanying drawings.

25

11. A one-piece blank for making a carton as claimed in any of claims 1 to 10.

30



INVESTOR IN PEOPLE

Application No: GB 0101328.3

Claims searched: 1 to 11

Examiner: Mike Henderson

Date of search: 28 June 2001

Patents Act 1977

Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): B8P (PC1X PB1 PL1 PL4 PT PK3)

Int Cl (Ed.7): B65D 5/54 5/66 5/68

Other: ONLINE:WPI,EPODOC,JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X, Y	GB 1143230 (SPRINTER-PACK AB) (Whole disclosure relevant)	X:Cl 1,3 & 11 Y:Cl 4 to 6
Y	US 4314643 (FORBES) (Whole disclosure relevant)	4 to 6

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Y Document indicating lack of inventive step if combined with one or more other documents of same category.

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